Downward Spirals

What's behind the decline of sperm in men's semen?

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A recent report announced that the count and concentration of sperm in semen among men in countries in North America and Europe and in Australia and New Zealand has plunged by more than 50 percent and doesn't seem to be leveling off, according to findings published in the journal Human Reproduction Update.

Sperm count measures the total number of sperm; sperm concentration, or density, is the number of sperm in millions in each milliliter of semen.

For the research, the first to evaluate multiple inquiries on the topic, scientists reviewed 7,500 studies from 50 different countries involving almost 43,000 men who provided semen samples between 1973 and 2011. Researchers selected 185 studies that included males who met their criteria: men who didn't produce a pregnancy.

Findings showed that, overall, sperm concentration declined by 52.4 percent during the entire study period for men living in industrialized Western countries. In addition, among the same group, total sperm count decreased overall by 59.3 percent. (Researchers found no significant dip in the sperm counts or concentrations of men living in South America, Asia and Africa.)

Scientists say the results, which showed high proportions of men in countries in the West with concentrations of sperm below 40 million per milliliter of semen, is of particular concern because this is associated with a "decreased monthly probability of conception." Additionally, poor semen quality is associated with a higher risk of hospitalization and even death for men.

Previous studies speculated that the drop may be due to men's exposure to chemicals such as pesticides, lead and fire retardants that can disrupt the endocrine system and affect its production of certain hormones in the body. Obesity, smoking and stress may also play a role.

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